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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MAHMOOD, REZWANUL

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/673,140	<b>Applicant(s)</b> EVANS ET AL.	
	<b>Examiner</b> REZWANUL MAHMOOD	<b>Art Unit</b> 2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This action is in response to the communication filed on December 27, 2007.

#### ***Response to Amendment***

2. Claims 1-9 are pending in this office action

#### ***Response to Arguments***

3. Applicant's arguments filed on December 27, 2007 have been fully considered but they are not persuasive for the following reasons:

Applicant argues that Levine does not teach or even suggest the features "wherein the list of tables that are related to returning the set of results but are not directly referred to the SQL statement is the only list prepared" and "preventing execution of unnecessary joins" and alleges that Levine "allows all tables related to tables in the SQL query to be included in the SQL join operation" instead of the applicant's feature of "wherein there is at least one table remaining in the list".

Examiner respectfully disagrees all of the allegations as argued. Examiner, in his previous office action, gave detail explanation of claimed limitation and pointed out exact locations in the cited prior art.

Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification. See MPEP 2111 [R-1]

Interpretation of Claims-Broadest Reasonable Interpretation

During patent examination, the pending claims must be 'given the broadest

reasonable interpretation consistent with the specification.’ Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969).

Levine teaches in Column 4 lines 1-27, Column 13 lines 43-67, Column 14 lines 1-9 and Figure 8 preparing a list of tables that are related to returning the set of results but that are not directly referred to by the SQL statement as claimed. This list is the only such list created in Levine. Tables with only join relationships are removed from this list, thus the remainder of the tables are prevented from being involved in execution of join operations. Again, only the related tables to the join relationship are removed, so any tables not related still remain in the list. Referring to Figure 2 of the applicant's invention, tables from the list are checked for join properties and the process ends when the last table is checked, not when there is at least one table remaining in the list. In a scenario where there is only two tables in the list to begin with and both are part of a join chain, applicant's invention will not operate if one of the tables is required to remain on the list, thus being prevented from taking part in execution of the join operation.

For the above reasons, Examiner believed that rejection of the last Office action was proper

### ***Claim Objections***

4. Claims 2-7 are objected to because of the following informalities:

In claims 2-7, the phrase “A computer implemented method of” should be “The computer implemented method of”. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 – 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claim 1 contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended features “wherein the list of tables in the only list prepared” and “wherein there is at least one table remaining in the list” are not disclosed in the specification.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 – 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear as to the meaning of the limitations “wherein the list of tables is the only list prepared” and “wherein there is at least one table remaining in the list”.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 – 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Levine (US Patent 6,640,221).

With respect to claim 1, Levine discloses a computer-implemented method of preventing execution of unnecessary joins between tables in a database, the method comprising the steps of:

- a. presenting a Structured Query Language (SQL) statement to the database, the SQL statement having a scope that extends to a set of tables in the database and returning a set of results from the database (Levine: Abstract, lines 1-14; Column 4, lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Figures 1, 2, 6; Here a Structured Query Language statement is presented to the database using a query tool, which has the scope that extends to a set of tables in the database and returns a result);
- b. preparing a list of tables that are related to returning the set of results but

that are not directly referred to by the SQL statement, wherein the list of tables is the only list prepared (Levine: Column 4, lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Column 13, lines 43-67; Column 14, lines 1-9; Figures 1, 2; Here the query tool prepares a list of tables that are related to returning the set of results but that are not directly referred to by the SQL statement, the user selects the tables from the list which will be referred directly by the SQL statement);

- c. removing tables that must be accessed in order to return the set of results from the list in accordance with a predetermined set of rules (Levine: Column 4, lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Column 13, lines 43-67; Column 14, lines 1-9; Figures 1, 2, and 8; Here the tables that will be used by the SQL statement are selected from the list); and,
- d. preventing execution of joins involving any of the tables remaining in the list, wherein there is at least one table remaining in the list (Levine: Column 4, lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Column 13, lines 43-67; Column 14, lines 1-9; Figures 1, 2, and 8; Since the tables required by the SQL statement are selected from the original list, the rest of the tables in the list do not participate in the SQL statement and are prevented from participating in execution of joins).

With respect to claim 2, Levine discloses a computer-implemented method according to claim 1, wherein the predetermined set of rules includes allowing removal

of a table from the list if this table is part of a join chain (Levine: Column 4, lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Column 13, lines 43-67; Column 14, lines 1-9; Figures 1, 2; Here the tables that will be used by the SQL statement are selected from the list).

With respect to claim 3, Levine discloses a computer-implemented method according to claim 1, wherein the predetermined set of rules includes a rule allowing removal of a table from the list if this table forms the detail table in a join between a master table and a detail table (Levine: Column 4, lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Column 13, lines 43-67; Column 14, lines 1-9; Figures 1, 2; Here the tables that will be used by the SQL statement are selected from the list).

With respect to claim 4, Levine discloses a computer-implemented method according to claim 1, wherein the predetermined set of rules includes a rule allowing removal of a table from the list if detail item values might not exist in a master table joined to a detail table (Levine: Column 4, lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Column 13, lines 43-67; Column 14, lines 1-9; Figures 1, 2; Here the tables that will be used by the SQL statement are selected from the list).

With respect to claim 5, Levine discloses a computer-implemented method according to claim 1, wherein the predetermined set of rules includes a rule allowing removal of a table from the list if that table has a mandatory filter (Levine: Column 4,



lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Column 13, lines 43-67; Column 14, lines 1-9; Figures 1, 2; Here the tables that will be used by the SQL statement are selected from the list).

With respect to claim 6, Levine discloses a computer-implemented method according to claim 4, wherein the predetermined set of rules further includes a rule preventing removal of a table from the list that would otherwise be allowed, if the join is an outer join on a master table (Levine: Column 4, lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Column 13, lines 43-67; Column 14, lines 1-9; Figures 1, 2; Here the tables that will be used by the SQL statement are selected from the list).

With respect to claim 7, Levine discloses a computer-implemented method according to claim 5, wherein the predetermined set of rules further includes a rule preventing removal of a table from the list that would otherwise be allowed, if the join is an outer join on a master table (Levine: Column 4, lines 1-39; Column 5, lines 61-67; Column 6, lines 1-33; Column 13, lines 43-67; Column 14, lines 1-9; Figures 1, 2; Here the tables that will be used by the SQL statement are selected from the list).

With respect to claim 8, Levine discloses a computer program comprising computer program code means adapted to perform the steps of claim 1 when said program is run on a computer (Levine: Column 5, lines 25-30).

With respect to claim 9, Levine discloses a computer program product comprising program code means stored on a computer readable medium for performing the method of claim 1 when said program product is run on a computer (Levine: Column 5, lines 25-36).

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Gutierrez-Rivas reference (US Patent 6,553,371) teaches about selecting table joins. The Kumar reference (US Publication 2003/0088548) teaches about extracting data from a database using a reduced query.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REZWANUL MAHMOOD whose telephone number is (571)272-5625. The examiner can normally be reached on M - F 10 A.M. - 5 P.M. .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571)272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. M./  
Examiner, Art Unit 2164

/Shahid Al Alam/  
Primary Examiner, Art Unit 2162

April 11, 2008